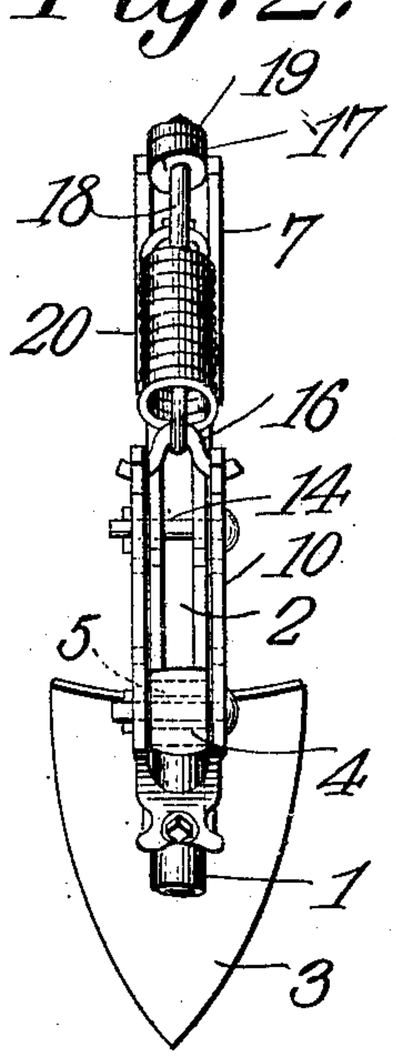
No. 839,956. PATENTED JAN. 1, 1907.

L. REEVES & G. K. GILCHRIST.

SPRING TRIP FOR CULTIVATORS.

APPLICATION FILED SEPT. 24, 1906.

Fig. 2.



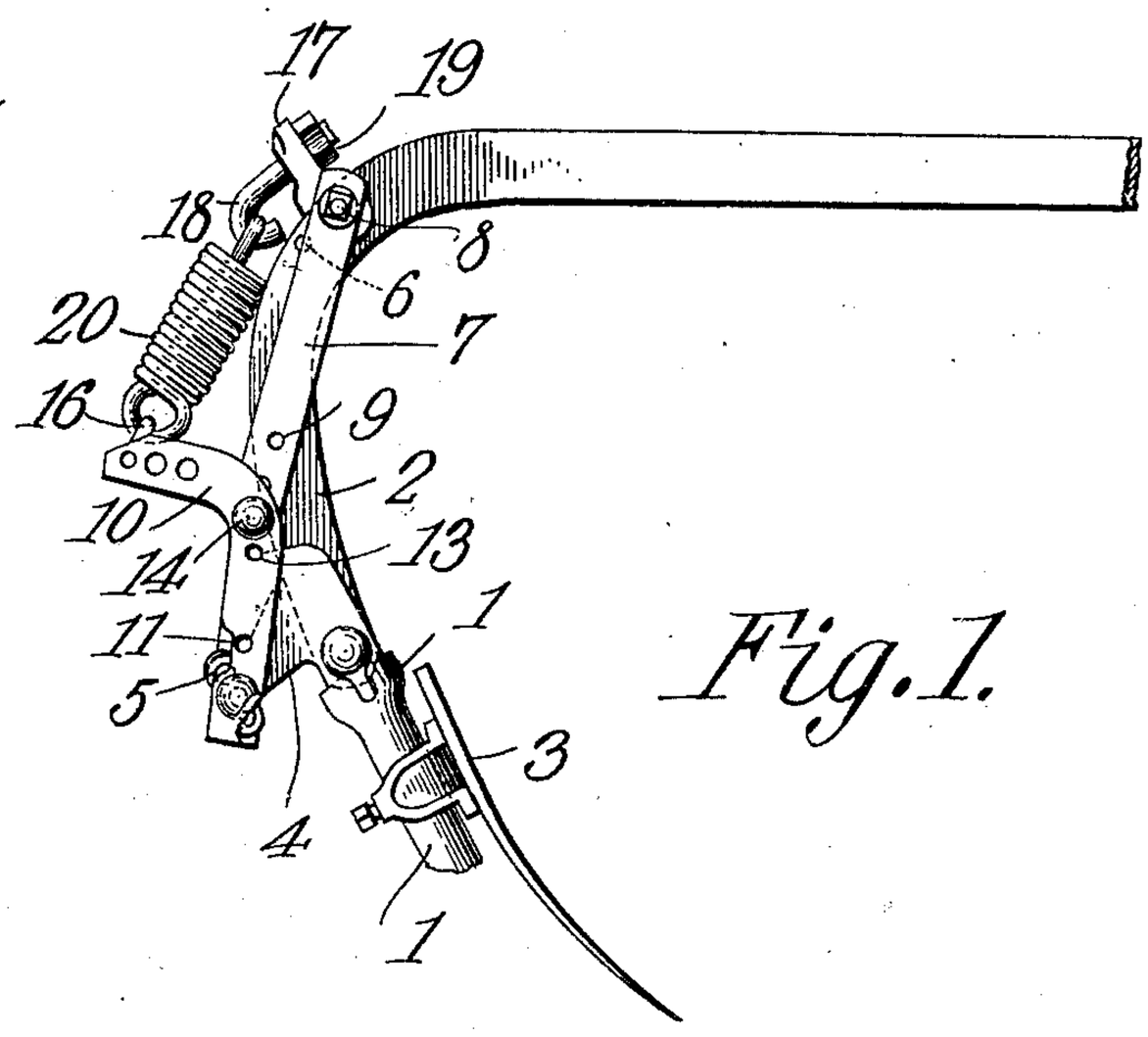


Fig. 1.

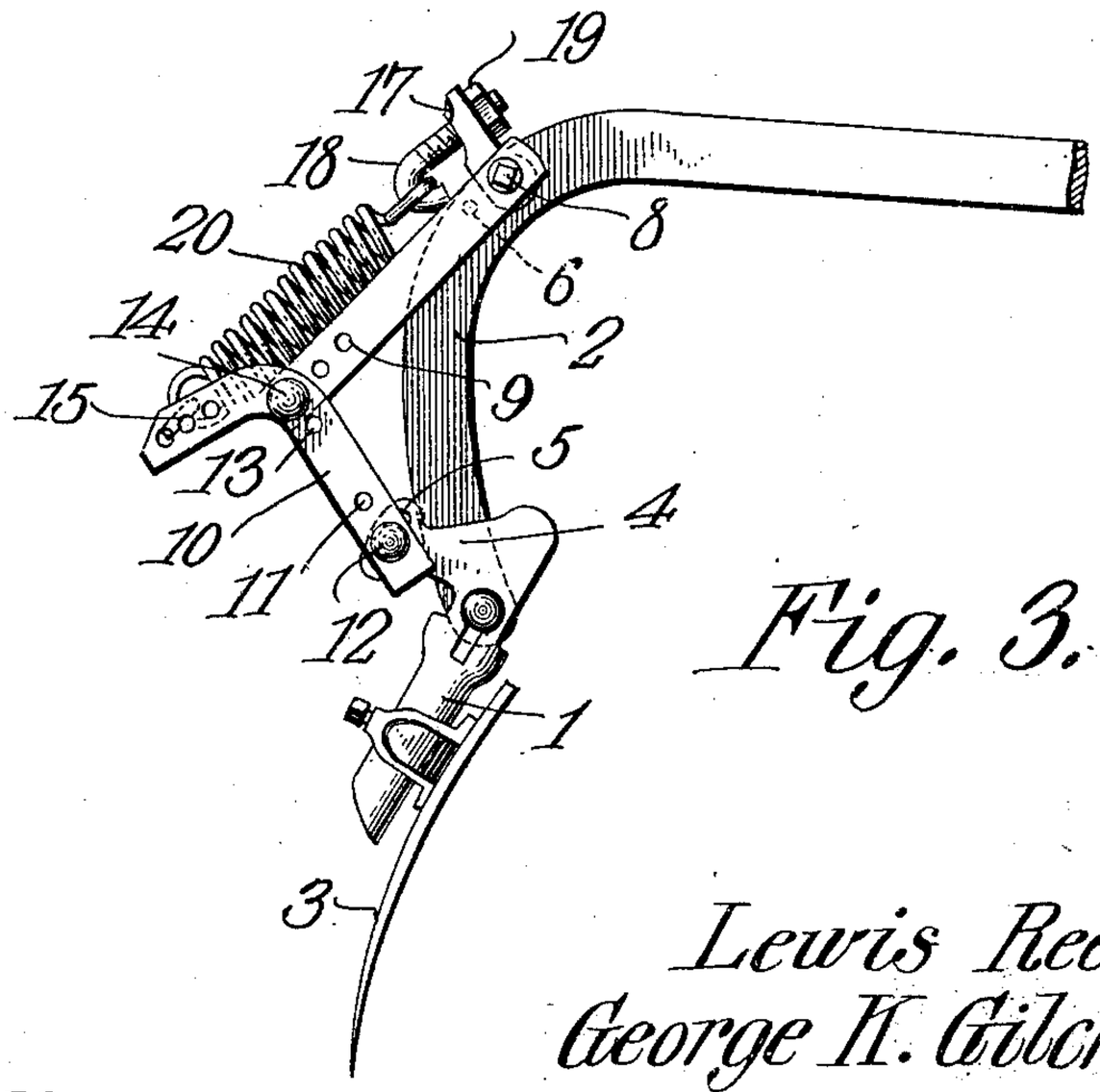


Fig. 3.

WITNESSES:

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LEWIS REEVES AND GEORGE K. GILCHRIST, OF VINTON, IOWA.

SPRING-TRIP FOR CULTIVATORS.

No. 839,956. Specification of Letters Patent. Patented Jan. 1, 1907.

Application filed September 24, 1906. Serial No. 335,928.

To all whom it may concern:

Be it known that we, LEWIS REEVES and GEORGE K. GILCHRIST, citizens of the United States, residing at Vinton, in the county of Benton and State of Iowa, have invented a new and useful Spring-Trip for Cultivators, of which the following is a specification.

This invention has relation to spring-trips for cultivators; and it consists in the novel construction and arrangement of its parts, as hereinafter shown and described.

The object of the invention is to provide a yielding connection between the shovel of a cultivator and its supporting-standard which will permit the shovel to be swung back when meeting an obstruction, and thereby allowing the shovel to automatically free itself from such obstruction.

The spring-trip consists, primarily, of two sets of toggle-levers fulcrumed together, one of which is pivoted together to the standard and the other is pivoted to the shank of the shovel-support. A coil-spring is fixed at its upper end with relation to the standard and is attached at its lower end to the upper ends of the lower toggle-levers. Means is provided for adjusting the fulcrum-point between the toggle-levers along either the upper or the lower levers in order that the angle of inclination of the plow-shovel may be changed in order to meet soil conditions. The bolt, which serves as a fulcrum for the upper and lower toggle-levers, rests normally against the rear edge of the plow-standard and limits the forward movement of the inner end of the said toggle-levers. Other adjusting means are provided, as will be hereinafter pointed out.

In the accompanying drawings, Figure 1 is a side elevation of the spring-trip cultivator. Fig. 2 is a rear elevation of the same; and Fig. 3 is a side elevation of the parts, showing them in the positions occupied when the shovel is pushed backward by an obstruction relatively to the standard.

The shovel-support 1 is pivoted to the lower end of the standard 2. The cultivator-point 3 is adjustably attached to the said support 1. The support 1 is provided with the rearwardly-extending shank 4. The rear end of the said shank is provided with a series of transversely-extending perforations 5 5. The upper rear portion of the standard 2 is provided with a series of perforations 6 6.

The toggle-levers are arranged in pairs, and one set of the pair is located on each side of the standard 2. As both sets of the pair are of the same construction and arrangement, a description of one pair will answer for both. The upper toggle-lever 7 is in the form of a straight link, which is pivoted upon the bolt 8, which in turn passes transversely through one of the perforations 6. The lower portion of the lever 7 is provided with a series of bolt perforations 9 9. The lower lever 10 is substantially rectangular in side elevation and is provided at its lower portion with a series of bolt perforations 11 11, which are adapted to receive the bolt 12, which also passes through one of the perforations 5 of the shank 4 of the plow-support 1. The intermediate portion of the lever 10 is provided with a series of fulcrum-bolt-receiving perforations 13, and the fulcrum-bolt 14 passes through one of the perforations 13 and one of the perforations 9. Thus the toggle-levers are fulcrumed together. The said fulcrum-bolt 14 extends transversely across the rear edge of the standard 2 and bears against the same and limits the forward movement of the inner ends of the said toggle-levers. The rear portion of the toggle-lever 10 is provided with a series of perforations 15 15, which are adapted to receive the end of the crotch member 16. The said member 16 extends transversely from one toggle-lever 10 to the other said lever. The lug 17 is attached by means of the bolt 8 to the standard 2. The hook 18 passes through the lug 17, and the nut 19 is screw-threaded upon the upper end of said hook 18 and bears against the forward face of the lug 17. The coil-spring 20 engages the hook 18, and the lower end of said spring engages the crotch of the member 16. Thus it will be seen that as the nut 19 is screwed or unscrewed from the hook 18 the tension of the coil-spring 20 will be regulated.

From the foregoing description it is obvious that the angle of inclination of the cultivator-shovel 3 with relation to the standard 2 may be regulated by passing the bolt 12 through any one of the perforations 11 and perforations 5, or by passing the bolt 14 through any one of the perforations 13 and perforations 9, or by passing the bolt 8 through any one of the perforations 6. Thus several means are provided for changing the angle of inclination of the shovel with relation to the standard,

and at the same time the use of threaded bolts for accomplishing such adjustment is avoided.

Having described the invention, what we claim as new, and desire to secure by Letters Patent, is—

A spring-trip for cultivators comprising a shovel-support pivoted to the cultivator-standard, and having a rearwardly-extending shank, two sets of toggle-levers fulcrumed together and located one set upon each side of the cultivator-standard, the upper toggle-levers being straight and pivoted to the standards and the lower toggle-levers being angular and pivoted to said shank, the fulcrum-bolt of said levers extending transversely across the standard and normally engaging the rear edge thereof and a spring connected at its ends to the upper and lower toggle-levers and extending across the fulcrum of the levers.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

LEWIS REEVES.
GEORGE K. GILCHRIST.

Witnesses:
L. R. TILSON,
MILO R. WHIPPLE.